

The effect of cooperative group investigation in student's reading comprehension

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Abstrack

This study is to find out whether the use of Group investigation (GI) method in studets' reading comprehension is effective or not. This research was done on the student of the ten grade, Senior High School in SMK N 2 Kediri, which have three classes. The ten grade of SMK N 2 Kediri was divided into three classes. There were class X A, X B, and X C. the researcher used X C as an experimental class and X B as control class. Reading test was the data which is collect as an instrument. Kuder Richardson 21 formula was used to get reliability. The result was 0.81, so the test was reliable. ANCOVA was used to analysed the data. The result of the analysis indicate that the students' reading comprehension ware significantly higher. The result 0.002 it is lower than 0.05 ($0.000 < 0.05$). it is conclude that using Cooperative Group Investigation is effective in students' reading comprehension.

Keywords: reading comprehension, group Investigation (GI).

INTRODUCTION

English becomes important language in the world since it is used as international language, Anyone recognizes that sometimes it plays a crucial role in this earth's cooperation with someone else. English plays a major role in humanity and adds to all elements such as social, political, cultural, technological, economic, educational, etc. It is therefore not shocking that English education takes place in several areas of the world. In Indonesia, as in junior high school, senior high school, and college, English must be hard on class. But we still view good English teaching, considering some considerations like teacher performance, public buildings, library, and books. They also need to talk about the world of education and learning.

There are some aspects that should be considered in mastering English. There are four skills and the four components. The four basics are listening, speaking, reading, and writing. There are also four components are pronunciation, vocabulary, fluency and grammar. Reading is necessary since reading is a practice that could not

be removed from our lives to find any information or awareness from written text. The students must therefore have great reading abilities.

Reading is very important for study purposes, careers, or simply for pleasure. By reading, we can get much information and pleasure. The element of the viewer's formal language could be a way of communicating the reviewer's concepts about certain specific information. This evidence is going to be a new expertise or amusement that the viewer needs.

Having read for overall understanding requires quick and instantaneous word processing, good ability to build general definition recognition of key ideas, and effective communication of several procedures. It's one of English skills this ability is capable of understanding and interpreting documentation in a text. It seems to be an immersive method in at least two ways. First, the different reading methods are conducted continuously. The instructor must have an objective in teaching comprehension skills to eliminate reading problems and optimize understanding by giving information that is culturally appropriate. Whatever the learners noticed should be meaningful to their use of and concern and they should be prepared, ready and able to read it.

Group research is a cooperative learning method that focuses on the cooperation and interaction of learners. Here, the students work together in a group. The researcher is doing research by using Cooperative Group Investigation technique. Therefore, the purpose of the presents is to test studys based on information above, the researcher observes intends to conduct a research in senior high school with the entitled "The Effect of Cooperative Group Investigation in Student's Reading Comprehension of the Ten Grade at SMK N 2 Kediri".

The respondent is limited to sample of students in the ten grade students. The researcher chooses Cooperative Group Investigation as method. In this study, the researcher believes that Cooperative Group Investigation can create the learner quickly to understand the reading comprehension. Furthermore, usage of quasi experimental research was chosen as the research design. The class X C was chosen to be experimental class and X B was the level of power. The researcher used Pre-testing and publishing know the student's reading achievement.

This study is intended to know whether or not there is an effect of using Cooperative Group Investigation have better reading comprehension than those taught by non- Cooperative Group Investigation.

METHOD

This research was held in experimental studies, pre-examination and post-examination by Arifin (2011, p. 68). The research has two variables. The student's achievement of reading comprehension was the independent variable, while Cooperative Group Investigation was the independent variable. Two groups was the sample of this research, first, experimental group Instead of using cooperative System for party inquiry, second comparison group by non cooperative System for

party inquiry. Cooperative and Control groups were given pre-test and post-test with same items.

That's the community study was all students of the ten grade of SMK N 2 Kediri in academic year 2018/2019 which have three classes. The Ten grade of SMK N 2 Kediri was divided into three classes. There were class X A, X B, and X C.

Sample is important in this study that has the aim to make a data set, the entire continent could be represented. It means that sample have to be able to represent the whole data of population. In the 2018/2019 academic year, the researcher gave two classes from the ten grade of SMK N 2 Kediri as a survey using X C as an observational class and X B as a regulate class.

The investigator was using jumble tasting method in this investigation. In this research, the sample was already in group setting/class. So, cluster sampling technique was suitable to use in determining the sample of this research. Every participant of the population has a fair and autonomous chance of being picked for the study in a cluster. In this study, the investigator selected two classes as a survey; they were class X C as the monitoring class of observational class X B.

Dealing with the procedures of Cooperative community inquiry, several steps are being taken by the researcher in experimental class. This researcher used three part of treatment in teaching reading. They are introduction in the first meeting to experimental class and control class. After that, the researcher give experimental level diagnosis and the teacher use non cooperative group investigation, and the last activity is giving post-test to all of the the class to know whether cooperative group effective or not. Here the treatment is three times in different topic in order to practice the student to get a good test.

By gathering the data uses test, which should be used to find out the respondents' achievement or ability. Before the test is given, this test is tried out to know whether the instrument is valid and reliable or not. The test that is given to the students is multiple choice type. It means that students had to choose the right answer among a, b, c, or d. So the researcher knew how far the students' understanding on the Text. Training is a list of questions and tests used only to evaluate the person or organization's performance or ability to find out how students know and then use the goal language (English). Testing is being used to calculate the proficiency of the individual and to achieve the goal. This technique has been used in reading understanding to obtain the rating of topics. Finalization has been the exam form that was used.

The data obtained from the score of the test was quantitative data, where the researcher had to analyze by aplying statistical method to get the generalization data or conclusion, because this analysis was aimed at learning the learners learned by the Autonomous Group Investigation have better reading comprehension than those taught by non- Cooperative Group Investigation of Ten grade of SMK N 2 Kediri. Since the presents study employed a quasi-experimental research, the students' reading skill prior to the treatment should be involved in the analysis. The researcher

statistically adjusted the posttest score for using covariance analysis (ANCOVA). In this study, the ANCOVA was calculated through spss 21.

FINDING AND DISCUSSION

Pretest is given to both the student of experimental group and pre-treatment control group. The prosecutor uses ANCOVA as the formula in this research. The researcher accounts the score from both of the group to know reading comprehension of the student.

The data of the research is the result of students' score at ten grade of SMK N 2 Kediri, especially XB class and XC class. The student's answered the test that has 30 items. When the student get 1 true answer, so they will get 3 points and the overall score is 90. You could see the outcome of the final review course score in the appendix.

Table 4.1 The Result of Pre-test

	Experimental group	Control group
The Number of student	20	20
The highest score	75	75
The frequency of student	3	4
The lowest score	54	54
The frequency of student	3	3
Mean	63.75	63.90
Standard deviasi	7.01033	7.54565

The data give the result that the numbers of students in two groups are same. There were 20 students in each group. The table gives the result that between the two groups has the same score in the highest and lowest score. It means that there are no difference scores in both categories. For four students, the students in the control group reached the highest score of 75 and for three students the lowest score is 54. And the students in the experimental group had the highest score of 75 for 3 students and the lowest score was 54 for 3 students.

The average two-group performance is almost the same. The study group's average score was 63.75 and the comparison group's average score was 63.90. And then the chart displayed the standard deviation variations for the average score of both groups as well. The observational community standard deviation was 7.01033 so 7.54565 for the control group.

Posttest is given to both the student of following diagnosis, the study group and the control group. The prosecutor accounts the score from both of the groups to

know the development of reading ability on the students after getting a treatment. You can see the result of posttest in figure 4.1

Figure 4.1 Posttest results

	Experimenta l group	Control group
The Number of student	20	20
The highest score	81	75
The frequency of student	1	2
The lowest of student	60	57
The frequency of student	2	1
Mean	70.35	66.60
Standard deviasi	6.19231	5.29548

The data above showed that experimental group and control group have different score in highest and lowest score. The student in the experimental group scored the highest 81 for one student and the lowest score 60 for two students and. For two students, the highest score in the control group is 75 and the lowest score is 57 for one student. This means that the study group score was higher than the control group.

The mean score of experimental group was 70.35 and the mean score of control group was 66.60. And then, the standard deviation for mean score of both groups is also different. The standard deviation for mean score of experimental group was 6.19231 and the standard deviation for mean score of control group was 5.29548.

In this part the researcher counted the result of post-test into the ANCOVA, so we could know the significant influence of treatment in cooperative group investigation to the students' reading comprehension. There are four assumptions that we need to fulfil, before we calculate students score using ANCOVA,

The first assumption is assumption of normality. The ANCOVA can be used if the dependent variable needs to be normally distributed. This statement can be obtained by using a single sample kolmogorov-smirnov test, if the value of $p \geq \alpha$, The variation of the error was normally distributed. It's visible in the table.

Figure 4.2: One-Sample Kolmogorov Smirnov Test

		P
		osttest
N		4
		0
Normal Parameters ^{a,b}	Mean	6
		8.48
	Std. Deviation	5.
		996
Most Extreme Differences	Absolute	.1
		40
	Positive	.1
		40
	Negative	-
		.090
Kolmogorov-Smirnov Z		.8
		86
Asymp. Sig. (2-tailed)		.4
		12

a. Test distribution is Normal.

b. Calculated from data.

The data above showed that the result assumption of normality was higher than α (0.05), as evidenced by p (0.412) > α (0.05). Therefore, which implies the distribution is natural.

The second assumption was testing for homogeneity variances. The researcher used Levene's test to know the homogeneity variances. If the result of Levene's test was $p > 0.05$, so the assumption was fulfilled. It means that the groups' variance is equal across groups. It's visible in the figure.

Table 4.3 Levene's Test of Equality of Error Variances

Dependent Variable: post-test			
F	df	df	Si
	1	2	g.
.1	1	38	.6
68		84	

Tests the null hypothesis that the dependent variable's error variance is equal between classes.

a. Design: Intercept + pre-test + group

The above table shows the importance of levene's test is 0.684. It shows that from the significant 0.684 higher than 0.05. It means that the difference between the experimental and control groups between two groups is equal.

The third condition is homogeneity of regression. The covariate must not interfere with the independent variable ($p > 0.05$) to be able to analyze using ANCOVA. When there is interaction between the covariate and the independent variable, ANCOVA's result is not relevant, and ANCOVA should not be used. The result of test of homogeneity of regression you can see in the figure.

Figure 4.4 Test of Homogeneity Regression (Slope)

Dependent Variable: posttest

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	917.222 ^a	41	305.741	2.706	.000	.654
Intercept	404.920	20	404.920	0.071	.000	.455
Group	7.112		7.112	.528	.472	.014
Pretest	772.619	19	772.619	7.378	.000	.614
group * pretest	16.249	9	16.249	1.207	.279	.032
Error	484.753	65	13.465			
Total	188955.000	10				
Corrected Total	1401.975	99				

a. R Squared = .654 (Adjusted R Squared = .625)

The above details showed interaction test between covariate (pretest) and fixed factor (group). The significant of interaction test between covariate and fixed factor $p = 0.279$. The result of homogeneity of regression can be seen in line of **group * pretest** that is higher than $\alpha = 0.05$. Therefore, this implies that there is no covariate interaction and fixed factor.

And the last assumption was a linier covariate relationship with dependent variable. That's it assumption is used to know the differences on the independent variable and evaluate the relationship between the dependent variable and covariate.

If the pre-test line is was $p(0.00) < \alpha(0.05)$, This implies that the covariate was related to the dependent variable.

In table 4.5, The data showed that the significant of pretest was 0.00. It means that $p(0.00) < \alpha(0.05)$ and there was the covariate's relationship with the dependent variable.

So, based on all of assumption above, the ANCOVA can be used to analysis data. The analysis data was used to answer the research problem and to know hypothesis was rejected or not. The mean a posttest can be seen on the table between the control group and the experimental group.

Figure 4.6 Descriptive Statistics

Dependent Variable: posttest			
Group	Mean	Std. Deviation	N
Control	66.60	5.2950	2
Experimental	70.35	6.1920	2
Total	68.48	5.9960	4

From the descriptive statistics, it shows the different mean on rating post check between the experimental group and the control group. The experimental group showed 70.35 and the control group showed 66.60. From the mean, the study group can be seen to have a higher mean score than the control group.

Figure 4.6 Tests of Between-Subjects Effects

Dependent Variable: posttest						
Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	900.973 ^a	3	300.324	3.269	.000	.64
Intercept	418.21	1	418.21	3.269	.000	.45
Pretest	760.348	1	760.348	0.931	.000	.60
Group	147.603	1	147.603	6.153	.000	.22
Total	147.603	3	147.603	0.901	.002	

Error	2	501.007	1	13.54			
Total	5.000	188950					
Corrected		1401.9					
Total	75	9					

a. R Squared = .643 (Adjusted R Squared = .623)

The product of the significant is 0.002 from the above performance, it is lower than 0.05 ($0.000 < 0.05$). As the relevant value was less than 0.05 statically there was enough evidence to receive the hypothesis. This means the students who had been trained using cooperative group investigation had significantly better reading skill than that were not taught by using cooperative group investigation.

Figure 4.8 Parameter Estimates

Dependent Variable: post-test

Parameter	B	Std. Error	t	Sig.	95% Confidence Interval		Partial Eta Squared
					Lower Bound	Upper Bound	
Intercept	1.195	.290	.897	.000	-.477	2.764	.485
Pretest	.614	.082	.749	.000	-.448	.670	.603
[group=control]	-3.842	.164	-23.302	.002	-6.200	-1.484	.228
[group=experimental]	a

a. This parameter is set to zero because it is redundant.

From the parameter above, You can see similar score between experimental group taught through the use of cooperative group investigation and control group taught without cooperative group investigation. The control group gets lower value -3.842 than experimental group.

The hypothesis of this research is students on ten grade who learn by using Cooperative Group investigation in teaching and learning process have better achievement in reading comprehension than the students who get conventional teaching. So, cooperative Community Inquiry is a good way to teach Reading Comprehension to pupils.

The analysis shows that both groups have different mean score before and after treatment. From the calculation, the mean experimental group score was 63.75

in the pre-test and the mean control group score is 63.90. In the post-test the experimental group's mean score was 70.35 and the control group's mean score is 66.60. This indicates that the group of studies has higher mean score than the control group. So, the hypothesis test is that students taught using the inquiry of the Cooperative Community achievement better score on reading comprehension test than those who are not. Based on the explanation above, the using cooperative group investigation in teaching reading comprehension is effective" is accepted.

Conclusion

In this attempt to know the effect of cooperative group research on reading comprehension techniques for students, the author conducted a study to show the disparity between students who were trained using cooperative group investigation technique and those who were taught without the use of cooperative group investigation technique in reading comprehension.

The use of cooperative group investigation in experimental class is to enjoy situation in this class, the students freely communicated with each other and they were more enthusiastic when they were joining this class. The main factor that affects students' progress is the students' interest in the way of teaching given so that they are motivated to learn in the classroom. In this case, they are gained into some groups of learning.

Result of ANCOVA's statistical estimate, which was important at $(p)0.000 < 0.05$. Since the significant value shown by SPSS output smaller than 0.05, this means that students taught using cooperative group investigation have a better reading than students taught without the use of cooperative group research.

The writer would like to offer some suggestions in this study to improve the ability of students to read comprehension in order to obtain better results. For lecturers, English teachers need to use cooperative group research as a technique of reading teaching, because it can help students improve reading skills. By doing cooperative community study, students will not feel bored in the learning process of English teaching because students will communicate and share their content with each other. It is hoped that the teacher will arrange the teaching and learning process well so that the students become more active. Furthermore, it is recommended that the English teacher use another cooperative learning strategy as a learning strategy to enhance the competency of the students not only in reading but also in the other language skills. Cooperative group investigation is very useful for the student to enhance their communication skills or group skills for the reactive students. It's hoped programs will study more. Programs are hoped to improve the English-language ability of the students that can be achieved in their extracurricular activities. Hopefully there will be an improvement for next researcher for the next study. The writer hopes that it can be used by other researchers as a reference to conduct their research on the same field or to teach other language skills. It's really possible there's another more successful way to teach detailed reading skills.

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